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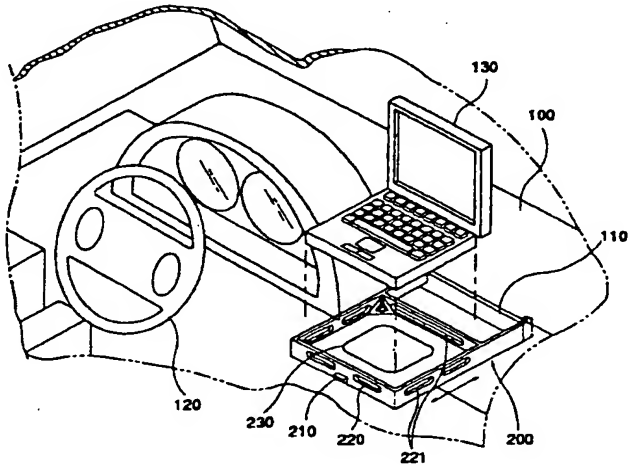
(54) Title: NOTE BOOK USE OF CAR FRAME



(57) Abstract: The present invention relates to an office system using a notebook computer in the interior of an automobile, comprising: a slide groove provided at an instrument panel formed at the front surface of the interior of the automobile; a storage cabinet having a storage space formed at the upper side thereof for receiving the notebook computer safely and connecting holes formed at the front and rear surfaces and at the left and right side surfaces, said storage cabinet being withdrawn outwardly by pulling a handle while it is inserted in the slide groove; a setting unit including a fixing panel on which the notebook computer withdrawn from the storage cabinet is fixed safely, a moving panel, and a support member formed between the lower end of the fixing panel and the instrument panel; and a base unit rotating upward and downward about a fixing shaft which is connected to a steering wheel such that the notebook computer withdrawn from the storage cabinet is received safely and fixed, whereby the notebook computer can be used irrespective of the location, and the interior of the automobile can be used not only as the space with inherent function but also as the office space.

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Title of the Invention

NOTE BOOK USE OF CAR FRAME

Technical Field to which the Invention belongs

The present invention generally relates to an office system using notebook computer in the interior of automobile, and more particularly to an office system using notebook computer in the interior of automobile, wherein the portable notebook computer is provided at the front surface of the interior of the automobile either in the instrumental panel or on the instrumental panel depending on the choice of a user, whereby the notebook computer can be irrespective of the location, and the interior of the automobile can be used not only as the space with inherent function but also as the office space.

Related Background Art

As a consequence of the recent rapid advances of the civilization, an automobile, a computer or the like has become a modern convenience essentially necessary to a modern person. Such a automobile is used as transfer means, and such a computer is used as means for collecting and exchanging various kinds of information.

However, since the automobile and the computer is manufactured and sold separately, it is required to carry the notebook in the automobile when the use of the computer (especially, the notebook computer) is needed in the automobile, which causes inconvenience to the user. Furthermore, when the computer is used in the automobile, it is not convenient to use the computer since additional fixing unit for using the notebook computer

is not provided in the interior of the automobile. In some cases, it is very difficult to collect and exchange any desired information in a job site since the notebook computer is not provided in the automobile.

Detailed Description of the Invention

Accordingly, an object of the present invention is to eliminate the drawbacks as mentioned above by providing an office system using notebook computer in the interior of automobile, wherein the portable notebook computer is provided at the front surface of the interior of the automobile either in the instrumental panel or on the instrumental panel depending on the choice of a user, whereby the notebook computer can be irrespective of the location, and the interior of the automobile can be used not only as the space with inherent function but also as the office space.

The aforesaid object of the present invention is accomplished by providing an office system using an notebook computer in the interior of an automobile, comprising: a slide groove provided at an instrument panel formed at the front surface of the interior of the automobile; a storage cabinet having a storage space formed at the upper side thereof for receiving the notebook computer safely and connecting holes formed at the front and rear surfaces and at the left and right side surfaces, said storage cabinet being withdrawn outwardly by pulling a handle while it is inserted in the slide groove; a setting unit including a fixing panel and a moving panel on which the notebook computer withdrawn from the storage cabinet is fixed safely, and a support member formed between the lower end of the fixing panel and the instrument panel; and a base unit rotating upward and

downward about a fixing shaft which is connected to a steering wheel such that the notebook computer withdrawn from the storage cabinet is received safely and fixed.

Brief Description of the Drawings

Fig. 1 is a perspective view showing that a storage cabinet according a preferred embodiment of the present invention is provided at the automobile;

Fig. 2 is a detailed perspective view of a storage cabinet according to another preferred embodiment of the present invention;

Fig. 3 is a side elevation view in section of a storage cabinet according to still another preferred embodiment of the present invention;

Fig. 4 is a side elevation view showing that a notebook computer is received safely in the storage cabinet of the present invention;

Fig. 5 is a perspective view showing that a setting unit of the present invention is provided at the automobile;

Fig. 6 is a side elevation view showing that a notebook computer is received safely in the setting unit of the present invention;

Fig. 7 is a perspective view showing that a base unit of the present invention is provided at the steering wheel of the automobile;

Fig. 8 is a side elevation view of the base unit of the present invention; and

Fig. 9 is a side elevation view showing that a notebook computer is received safely in the base unit of the present invention.

Description of the Preferred Embodiment

The preferred embodiments of the present invention will now be described with reference to the accompanying drawings.

The present invention relates to an office system using notebook computer in the interior of automobile, which comprises a slide groove (110) provided at an instrument panel (100) formed at the front surface of the interior of the automobile, a storage cabinet (200) guided into and out of the slide groove (110), a setting unit (300) and a base unit (400), the setting unit and a base unit being provided for fixing the notebook computer when it is withdrawn out of the storage cabinet, as shown in Figs. 1 to 9.

The storage cabinet (200) is withdrawn outwardly by pulling a handle (210) while it is inserted in the slide groove (110). The storage cabinet (200) includes a storage space (230) formed at the upper side thereof for receiving the notebook computer (130) safely and connecting holes (220)(221) formed at the front and rear surfaces and at the left and right side surfaces. The storage cabinet (200) is provided at each of the corners with a supporting unit (240) for resiliently supporting the notebook computer (130) receive safely in the storage cabinet.

The supporting unit (240) includes a supporting plate (242) resiliently supported by the supporting springs (241) at the side surface and the bottom surface of the corner, and a notebook computer supporting member (244) slided along a guide groove (242a) formed at the upper surface of the supporting plate (242) and resiliently supported by the return spring

(243). The connecting holes (221) formed at the rear surfaces and at the left and right side surfaces are provided for connecting all kinds of the cable and the power cable to the notebook computer (130), and the connecting holes (220) is formed at the front surfaces, through which CD-ROM or 3.5 inch floppy diskette is inserted or withdrawn into or from the notebook computer.

The setting unit (300) includes a fixing panel (310) and a moving panel (320) on which the notebook computer (130) withdrawn from the storage cabinet (200) is fixed safely, and a support member (350) formed between the lower end of the fixing panel (310) and the instrument panel (100). The fixing panel (310) is provided with a rack gear (330) and the moving panel (320) is provided with a guiding groove (340) for guiding the rack gear (330) and fixing it compulsively, so that the moving panel (320) is movable right or left from the fixing panel (310) depending on the size of the notebook computer (130).

The base unit (400) rotates upward and downward about a fixing shaft (410) which is connected to a steering wheel (120) such that the notebook computer (130) withdrawn from the storage cabinet (200) is received safely and fixed. The rotation of the base unit is limited so that the notebook computer (130) can be set on the base unit horizontally as seen from the side.

The operation of the present invention constructed as mentioned above is as follows: First of all, the storage cabinet (200) is inserted into the slide groove (100) formed at the instrument panel (100). Then, the

notebook computer (130) is received safely and fixed into the storage space (230) formed at the upper part of the storage cabinet.

At this time, since the supporting plates (241) of the supporting unit (240) provided at each of the corners are resiliently compressed, the notebook computer (130) is not given any impact during the notebook computer (130) is received safely and fixed. When the notebook computer supporting member (244) of the supporting unit (240) is lowered depending on the size of the notebook computer (130), the notebook computer (130) is resiliently supported without its separation from the notebook computer supporting member.

Under the conditions as mentioned above, if the handle (210) is pulled in order to use the notebook computer, the storage cabinet (200) is moved frontward along the slide groove (110). As a result, the notebook computer (130) is withdrawn outwardly from the instrument panel (100). Under the present condition, the cover of the notebook computer which is received safely and fixed in the storage space (230) may be opened in order to use the notebook computer. After the notebook computer is used, the cover of the notebook computer is closed and then the storage cabinet (200) is pushed. Consequently, the notebook computer (130) is inserted fully into the instrument panel (100).

At this time, various kinds of cables and the power cable is connected to the notebook computer (130) through the connecting holes (221) formed at the rear surfaces and at the left and right side surfaces, and CD-ROM or 3.5 inch floppy diskette is inserted or withdrawn into or from the

notebook computer through the connecting holes (220) formed at the front surfaces, depending on the choice of the user.

Meanwhile, it is required to adjust the interval of the setting unit (300) depending on the size of the notebook computer in order that the notebook computer (130) is received safely and fixed on the setting unit (300) for use.

To this end, the moving panel (320) is moved to the left side from the fixing panel (310) so that the interval of the setting unit (300) is enough, and then the notebook computer is fixed safely on the moving panel (320) and the fixing panel (310). Simultaneously, the moving panel (320) is moved to the right so that it may be in close contact with the notebook computer. When the moving panel (320) is moved to the left side or the right side from the fixing panel (310), the guiding groove (340) is moved to the left side or the right side along the rack gear (330). After the moving panel is moved, the rack gear (330) is fixed somewhat compulsively so that the moving panel (320) can not be moved.

In addition, when it is required to use the notebook computer (130) on the steering wheel (120), the base unit (400) is unfolded as shown in Fig. 9 while the base unit (400) is attached closely to the steering wheel (120) about a fixing shaft (410) as shown in Fig. 8, and then the notebook computer (130) is fixed safely on the base unit (400). In this way, it is possible to use the notebook computer (130) on the base unit (400).

Industrial Applicability

According to the present invention as described above in detail, the

portable notebook computer is provided at the front surface of the interior of the automobile either in the instrumental panel or on the instrumental panel depending on the choice of a user, whereby the notebook computer can be irrespective of the location, and the interior of the automobile can be used not only as the space with inherent function but also as the office space.

SCOPE OF THE CLAIMS

Claim 1

An office system using an notebook computer in the interior of an automobile, comprising:

a slide groove (110) provided at an instrument panel (100) formed at the front surface of the interior of the automobile;

a storage cabinet (200) having a storage space (230) formed at the upper side thereof for receiving the notebook computer (130) safely and connecting holes (220)(221) formed at the front and rear surfaces and at the left and right side surfaces, said storage cabinet being withdrawn outwardly by pulling a handle (210) while it is inserted in the slide groove (110);

a setting unit (300) including a fixing panel (310) and a moving panel (320) on which the notebook computer (130) withdrawn from the storage cabinet (200) is fixed safely, and a support member (350) formed between the lower end of the fixing panel (310) and the instrument panel (100); and

a base unit (400) rotating upward and downward about a fixing shaft (410) which is connected to a steering wheel (120) such that the notebook computer (130) withdrawn from the storage cabinet (200) is received safely and fixed.

claim 2

The office system using an notebook computer in the interior of an automobile as claimed in claim 1, wherein

the storage cabinet (200) is provided at each of the corners with a supporting unit (240) for resiliently supporting the notebook computer (130) receive safely in the storage cabinet.

said supporting unit (240) including a supporting plate (242) resiliently supported by the supporting springs (241) at the side surface and the bottom surface of the corner, and a notebook computer supporting member (244) slided along a guide groove (242a) formed at the upper surface of said supporting plate (242) and resiliently supported by the return spring (243).

FIG 1

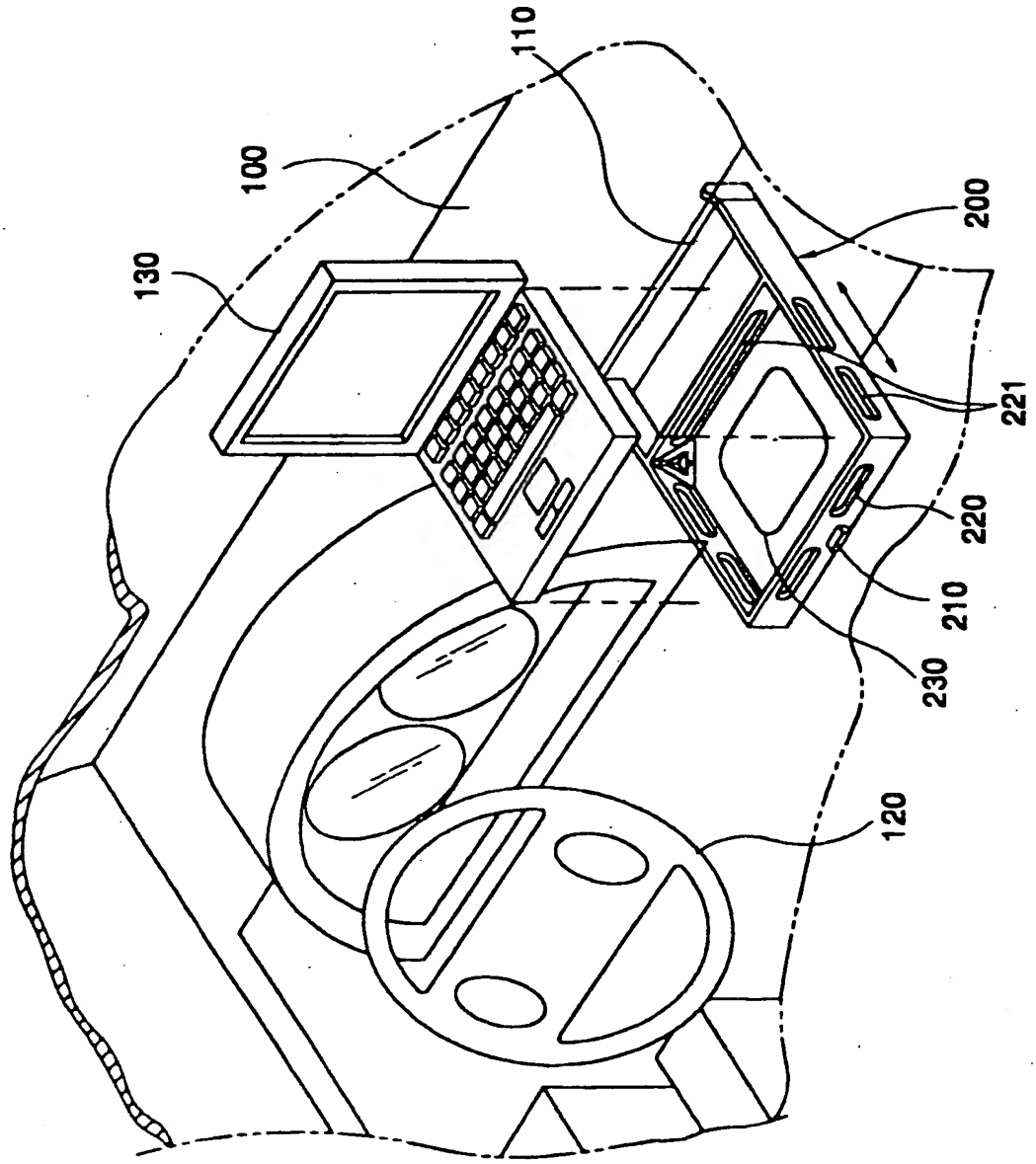


FIG 2

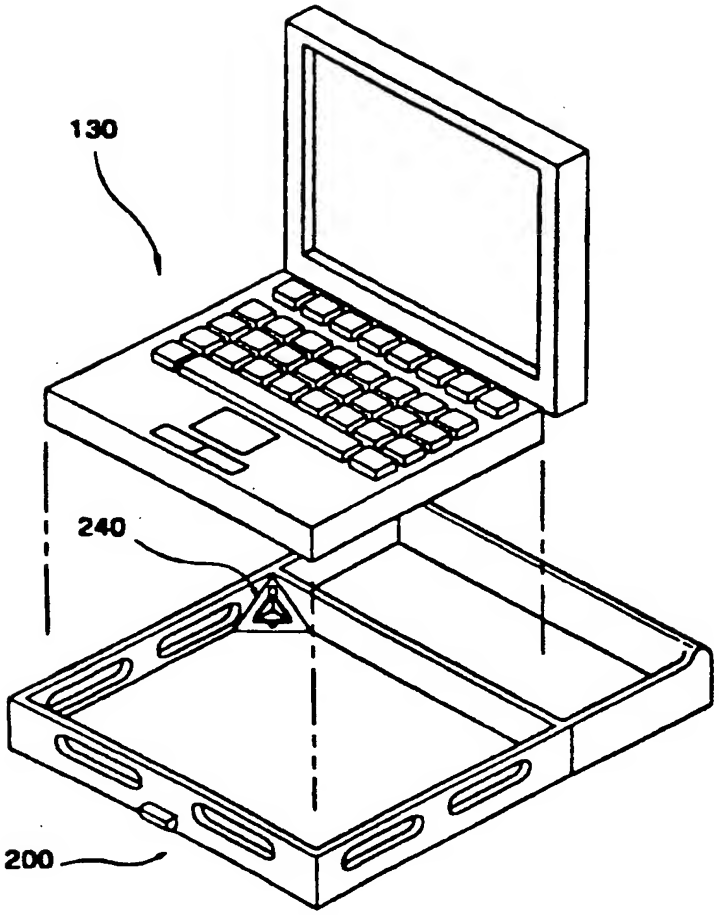


FIG 3

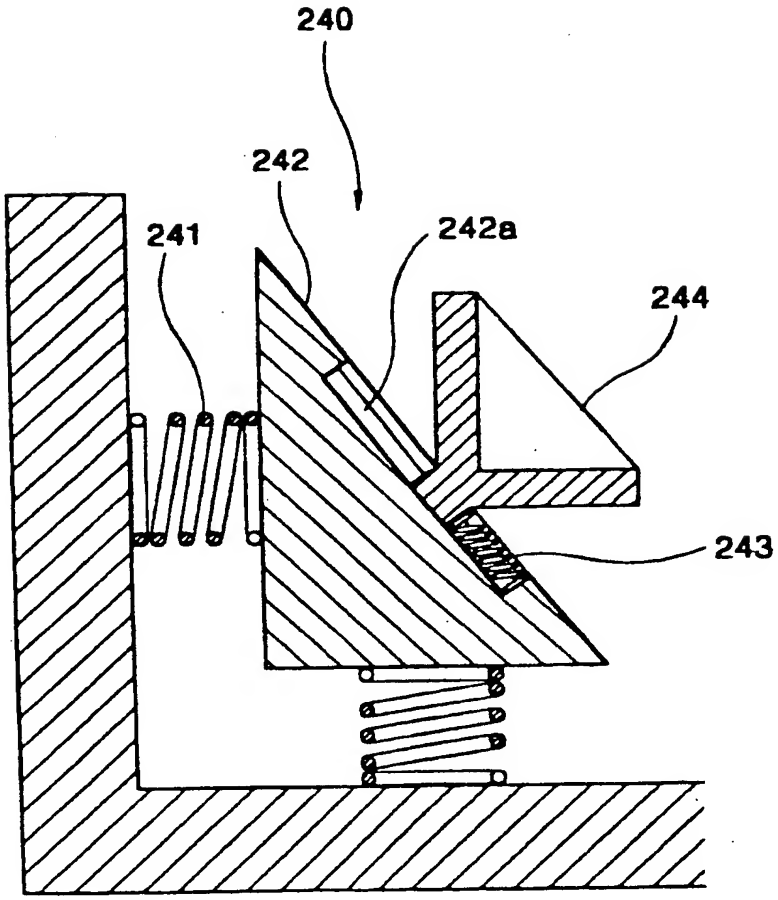


FIG 4

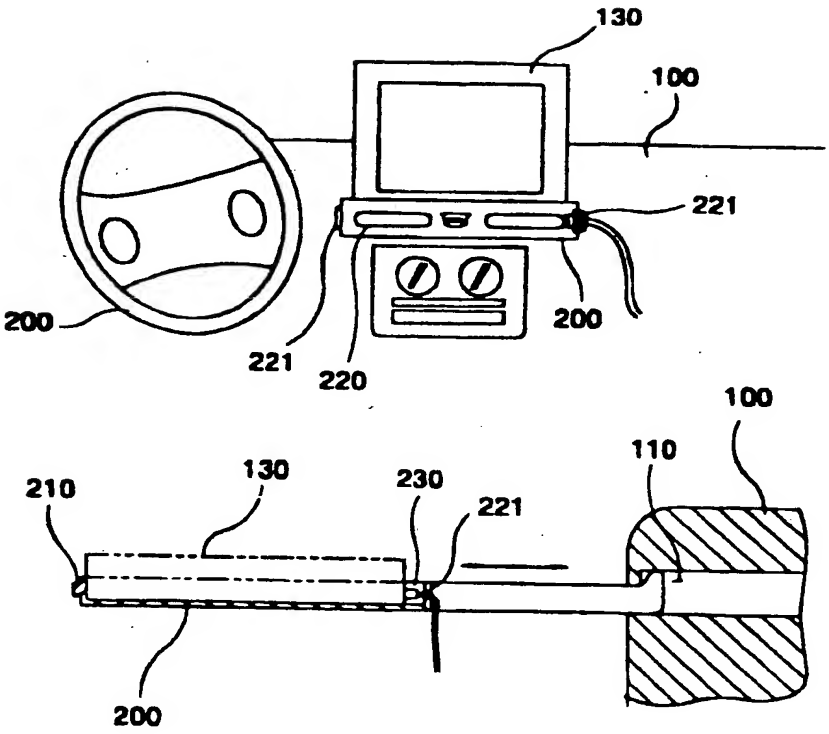


FIG 5

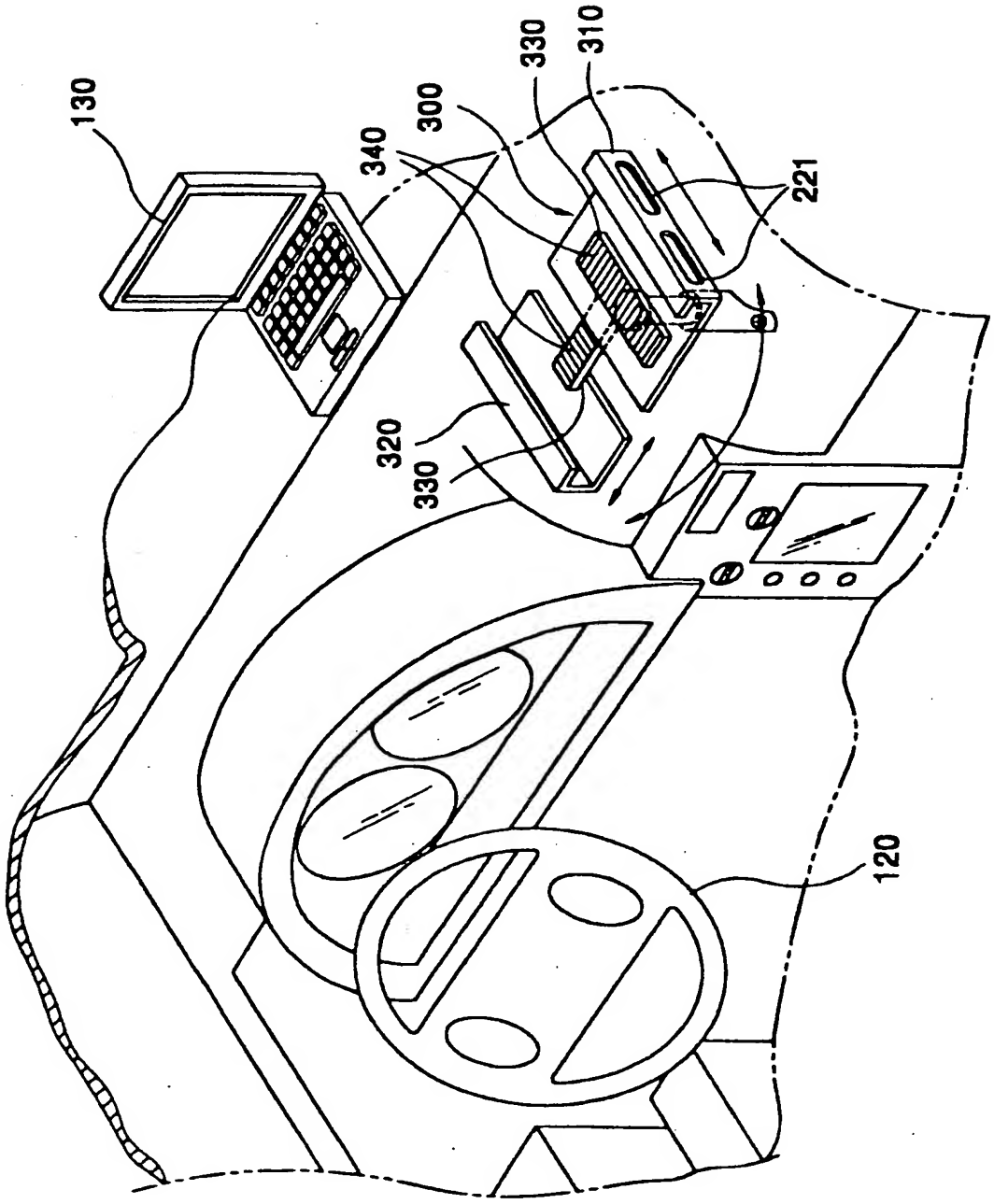


FIG 6

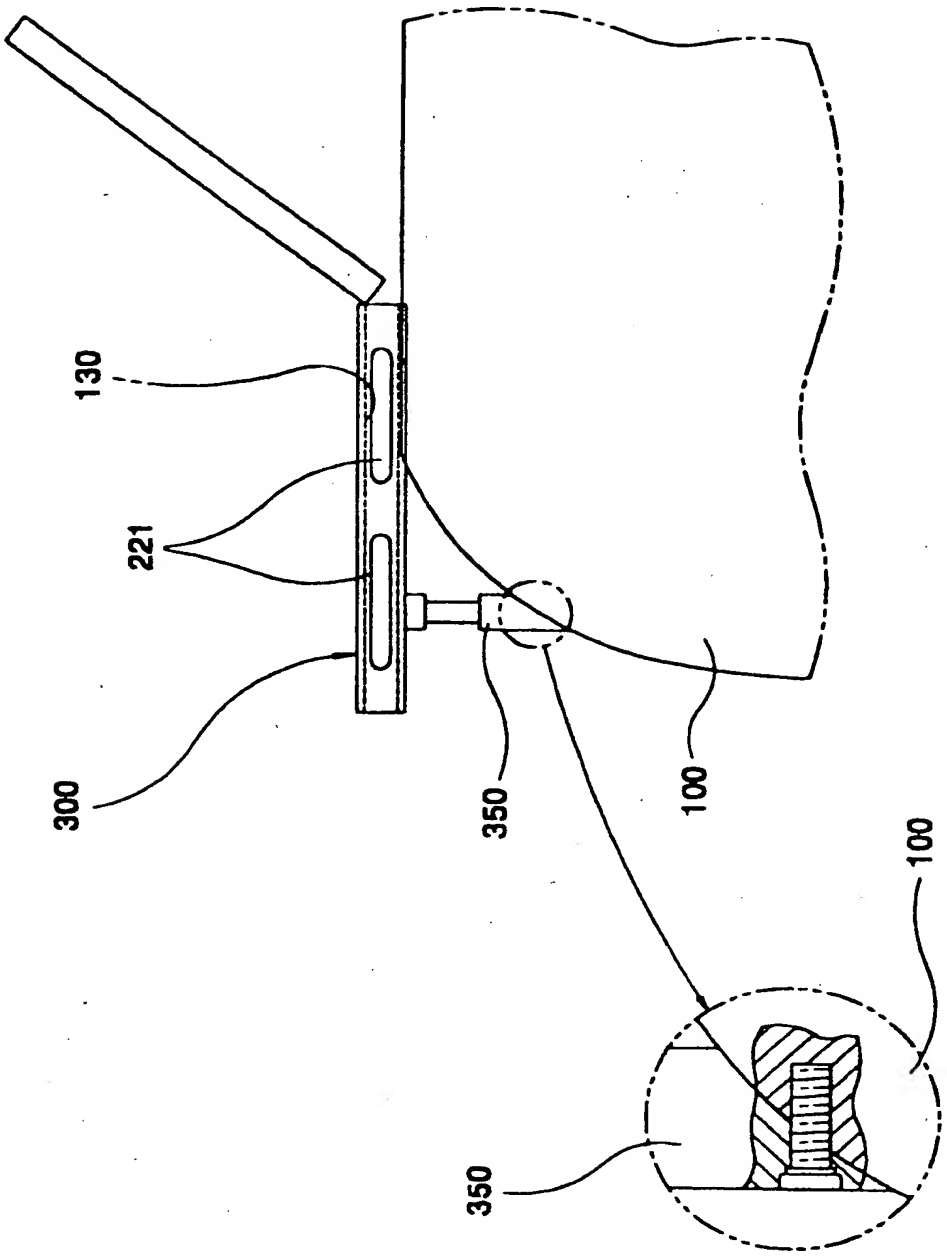


FIG 7

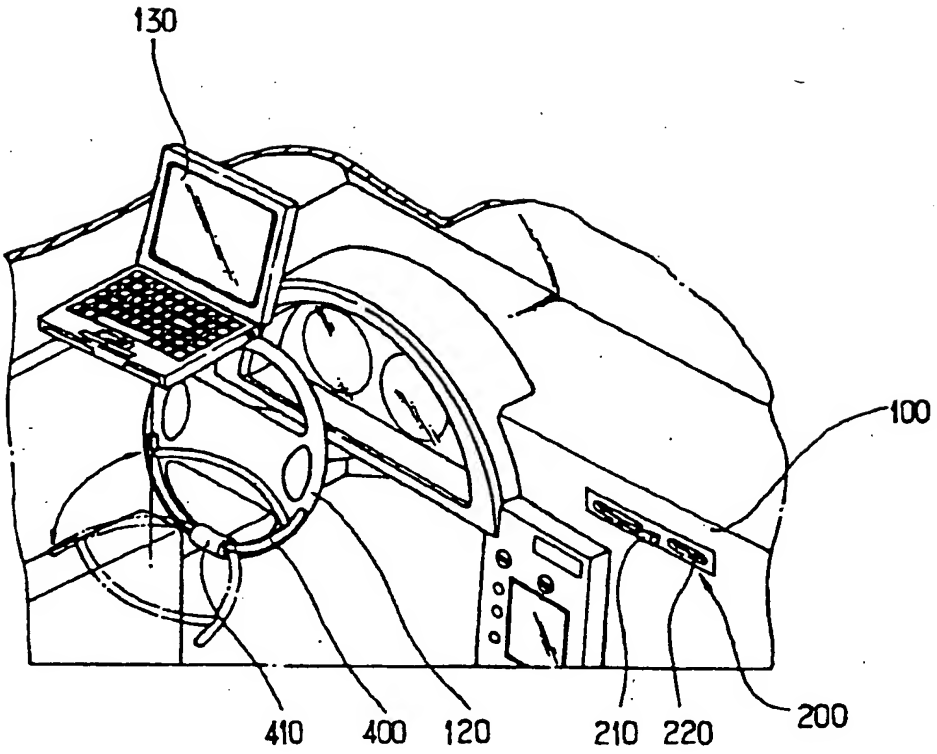


FIG 8

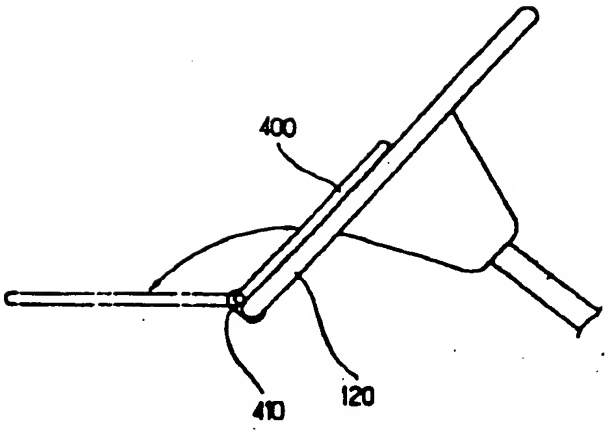
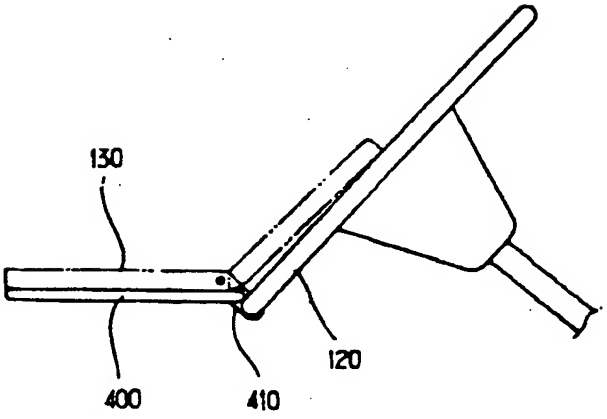


FIG 9



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR01/00205

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 B60R 11/02, B60R 7/06, B65D 43/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimun documentation searched (classification system followed by classification symbols)

IPC7 B60R, B62D

Documentation searched other than minimun documentation to the extent that such documents are included in the fileds searched

KR,US,JP,EP as above

Electronic data base consulted during the intertnational search (name of data base and, where practicable, search trerms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 09-272379 A(Sumitomo Electric Ltd..) Oct. 21, 1997 See Page 2 column 2, line1 - line 26; Figures 1-4.	1
Y	DE 42 28 605 A1(Blaupunkt-Werke GmbH,) Mar. 03, 1994 See column 1, line2 - column 2line 38; Figures 1-2.	1
Y	JP 07-5959 U(Ohjis, Ltd.,) Jan. 27, 1995 See Clame 1; Figures 1-8.	1
Y	KR 1998-67489 U(Kia Moters Corp.,) Dec. 05, 1998 See the whole document	1

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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Name and mailing address of the ISA/KR	Authorized officer
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Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/KR01/00205

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 09-272379 A	21-10-1997	US 5808373 A EP 795437 A3	15-09-1998 17-09-1997
DE 42 28 605 A1	03-03-1994	None	
JP 07-5959 U	27-01-1995	None	
KR 1998-67489 U	05-12-1998	None	

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